

AMENDMENTS TO THE CLAIMS

This listing of claims replaces all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) In a system including a television and a video transmission medium, wherein interactive broadcast data text descriptions such as electronic program guide information, news headlines, sports scores, or other similar kinds of periodically updated information that can be displayed as text simultaneously with other programming is transmitted across the video transmission medium, and wherein the system also includes a management system having a digital processor for processing one or more unique digital signatures that correspond to the interactive broadcast data, and an input device for inputting other digital data that corresponds to user instructions input by a user when searching for particular interactive broadcast data, a method for efficiently searching the interactive broadcast data in response to a string of text input by a user in order to identify the particular interactive broadcast data desired by the user, the method comprising:

receiving interactive broadcast data at the management system, said interactive broadcast data having unique binary signatures, each unique binary signature generated for an electronic program guide entry using programming information from a plurality of information fields of the electronic program guide entry, ~~such that the unique binary signature for the electronic program guide entry matches any binary signature based on a portion of the programming information from the one or more information fields wherein~~ each of the unique binary signatures is created prior to transmission across the video transmission medium using a first function adapted to convert alphanumeric text in fields of the electronic program guide entries into unique binary signatures having a fixed number of bytes, wherein at least one of the unique binary signatures includes a plurality of distinct four bit binary representations corresponding to a plurality of distinct terms found within a single electronic program guide entry, with each of the distinct four bit binary representations in the unique binary signature corresponding to a distinct term, and with all of the distinct four bit

binary representations being concatenated into a single binary signature comprising the fixed number of bytes, [[and]]

storing the unique binary signatures at the management system;

~~receiving a first user-entered text string including information corresponding to a first subset of the plurality of fields that were used to generate the unique binary signatures;~~

using a second function to convert the first user-entered text string into a first unique binary signature that is stored at the management system;

retrieving and comparing each of the stored unique binary signatures corresponding to the interactive broadcast data text descriptions to the unique binary signature of the user-entered text string; and

based on the comparison, the management system identifying at least one item of interactive broadcast data that matches the user-entered text string.

~~in the interactive broadcast data to the first unique binary signature of the first user-entered text string;~~

~~determining that the first unique binary signature matches at least a specified unique binary signature in the interactive programming data;~~

~~as each interactive programming data match is identified, the management system streaming each electronic program guide entry that matches the first user-entered input text string to the user's television;~~

~~receiving a second, different user-entered text string including information corresponding to a second different subset of the plurality of fields that were used to generate the unique binary signatures;~~

~~using the second function to convert the second user-entered text string into a second unique binary signature that is stored at the management system;~~

~~comparing the second binary signature to each of the unique binary signatures of the interactive broadcast data;~~

~~determining that the second unique binary signature also matches at least the same specified unique binary signature identified in the interactive programming data; and~~
~~as each interactive programming data match is identified, the management system streaming each electronic program guide entry that matched the first input text string to the user's television.~~

2. (Currently Amended) The method as recited in claim 1, wherein receiving binary signatures of the interactive broadcast data text descriptions comprises the following:

receiving binary signatures of the interactive broadcast data text descriptions, the binary signatures being converted from interactive broadcast data text descriptions using a first set of specified rules, which cause the interactive broadcast data text descriptions to differ from an original version prior to conversion into the binary signatures and by deleting at least one commonly used word.

3. (Previously Presented) The method as recited in claim 2, wherein converting the user-entered text string into a binary signature comprises the following:

converting the user-entered text string into a binary signature using a second set of specified rules, which causes the user-entered text string to differ from an original version prior to conversion into the binary signatures.

4. (Original) The method as recited in claim 3, wherein the first set of specified rules and the second set of specified rules are the same.

5. (Cancelled)

6. (Cancelled)

7. (Cancelled)

8. (Cancelled)

9. (Cancelled)

10. (Cancelled)

11. (Cancelled)

12. (Cancelled)

13. (Original) The method as recited in claim 1, wherein comparing the binary signatures of the interactive broadcast data text descriptions to the binary signature of the user-entered text string comprises the following:

comparing the binary signatures of electronic program guide text descriptions to the binary signature of the user-entered text string.

14. (Cancelled)

15. (Cancelled)

16. (Cancelled)

17. (Cancelled)

18. (Original) The method as recited in claim 1, wherein receiving binary signatures of the interactive broadcast data text descriptions comprises the following:

a set top box associated with a television receiving binary signatures of the interactive broadcast data text descriptions.

19. (Original) The method as recited in claim 1, wherein receiving a user-entered text string from an input device comprises the following:

a set top box associated with a television receiving a user-entered text string from an input device.

20. (Cancelled)

21. (Previously Presented) The method as recited in claim 1, wherein storing the binary signatures of the interactive broadcast data text descriptions comprises the following:

storing the binary signatures of the interactive broadcast data text descriptions on one or more physical storage media.

22. (Original) The method as recited in claim 1, wherein comparing the binary signatures of the interactive broadcast data text descriptions to the binary signature of the user-entered text string comprises the following:

comparing each binary signature of an interactive broadcast data text description to the results of a logical OR operation performed on each binary signature of an interactive broadcast data text description and the binary signature of the user-entered text string.

23. (Original) The method as recited in claim 1, further comprising:

receiving additional text, which is associated with one or more interactive broadcast data text descriptions.

24. (Previously Presented) The method as recited in claim 23, wherein receiving additional text, which is associated with one or more interactive broadcast data text descriptions comprises the following:

receiving additional text, which is associated with one or more electronic program guide text descriptions.

25. (Original) The method as recited in claim 23, wherein receiving additional text, which is associated with one or more interactive broadcast data text descriptions comprises the following:

receiving additional text, which is associated with one or more interactive broadcast data text descriptions, if the user-entered text string is included in any of the interactive broadcast data text descriptions.

26. (Original) The method as recited in claim 25, wherein receiving additional text, which is associated with one or more interactive broadcast data text descriptions, if the user-entered text string is included in any of the interactive broadcast data text descriptions comprises the following:

receiving additional text, which is associated with one or more interactive broadcast data text descriptions, if the results of a logical OR operation performed on any of the binary signatures of the one or more interactive broadcast data text descriptions and the binary signature of the user-entered text string is identical to any of the binary signatures of the one or more interactive broadcast data text descriptions.

27. (Original) The method as recited in claim 1, wherein determining based on the comparison, if the user-entered text string is included in any of the interactive broadcast data text descriptions comprises the following:

determining based on the comparison, if the user-entered text string is included in any electronic program guide text descriptions.

28. (Currently Amended) ~~In a system including a television and a video transmission medium, wherein interactive broadcast data text descriptions such as electronic program guide information, news headlines, sports scores, or other similar kinds of periodically updated information that can be displayed as text simultaneously with other programming is transmitted across the video transmission medium, and wherein the system also includes a management system having a digital processor for processing one or more unique digital signatures that correspond to the interactive broadcast data, and an input device for inputting other digital data that corresponds to user instructions input by a user when searching for particular interactive broadcast data, a computer program product for implementing a method for efficiently searching the interactive broadcast data in response to a string of text input by a user in order to identify the particular interactive broadcast data desired by the user, the~~

A computer program product comprising:

a recordable-type computer-readable medium carrying computer-readable instructions that, when executed, implement the method recited in claim 1.

~~, that when executed at the processor of the management system, cause the management system to perform the following:~~

~~receiving interactive broadcast data at the management system, said interactive broadcast data having unique binary signatures, each unique binary signature generated for an electronic program guide entry using programming information from a plurality information fields of the electronic program guide entry such that the unique binary signature for the electronic program guide entry matches any binary signature based on a portion of the programming information from the one or more information fields each of the unique binary signatures created prior to transmission across the video transmission medium using a first function adapted to convert alphanumeric text in fields of the electronic program guide entries into unique binary signatures having a fixed number of bytes, and storing the unique binary signatures at the management system;~~

~~receiving a first user entered text string including information corresponding to a first subset of the plurality of fields that were used to generate the unique binary signatures;~~

~~using a second function to convert the first user entered text string into a first unique binary signature that is stored at the management system;~~

~~comparing each of the unique binary signatures in the interactive broadcast data to the first unique binary signature of the first user entered text string;~~

~~determining that the first unique binary signature matches at least a specified unique binary signature in the interactive programming data;~~

~~as each interactive programming data match is identified, the management system streaming each electronic program guide entry that matches the first user entered input text string to the user's television;~~

~~receiving a second, different user entered text string including information corresponding to a second different subset of the plurality of fields that were used to generate the unique binary signatures;~~

~~using the second function to convert the second user entered text string into a second unique binary signature that is stored at the management system;~~

~~comparing the second binary signature to each of the unique binary signatures of the interactive broadcast data;~~

~~determining that the second unique binary signature also matches at least the same specified unique binary signature identified in the interactive programming data; and~~

~~as each interactive programming data match is identified, the management system streaming each electronic program guide entry that matched the first input text string to the user's television.~~

29. (Currently Amended) The computer program product as recited in claim 28, wherein the computer executable instructions that when executed at [[the]]a set top box cause the

set top box to receive binary signatures of ~~the interactive broadcast data text descriptions~~
~~comprise the following:~~

~~computer executable instructions that when executed at the set top box cause the~~
~~set top box to receive binary signatures of electronic program guide text descriptions.~~

30. (Currently Amended) The computer program product as recited in claim 28, wherein the recordable-type computer-readable medium is ~~one or more physical storage mediasystem memory.~~

31. (Previously Presented) The method of claim 1, wherein the unique binary signatures for the interactive broadcast data are converted immediately before they are loaded into RAM at the management system such that the interactive broadcast data text descriptions are converted to unique electronic program guide signatures as they pass from electronic program guide data to RAM.

32. (Currently Amended) The method of claim 1, wherein the fixed size of each of the unique binary signatures is 16 bits. ~~for the interactive broadcast data are converted before transmission to the management system.~~

33. (Previously Presented) The method of claim 1, wherein the unique binary signatures for the interactive broadcast data are created prior to transmission to the management system.

34. (Previously Presented) The method of claim 1, wherein the unique binary signatures for the interactive broadcast data are created by the management system.

35. (Previously Presented) The method claim 1, wherein the first function is either a hash or digest function that produces unique hash or digest values for the unique binary signatures for the interactive broadcast data text descriptions.

36. (Previously Presented) The method of claim 35, wherein the second function is either a hash or digest function that produces a unique hash or digest value for the unique binary signature for the user entered-text string.

37. (Currently Amended) The method of claim 1, wherein the management system identifies ~~the one and only one~~ item of interactive broadcast data that matches the user entered-text string, and wherein full text descriptions corresponding to the interactive broadcast data are displayed at the management system.

38. (Currently Amended) The method of claim 37, wherein a plurality of user entered-text strings are input into the management system, and wherein the management system identifies a plurality of ~~one and only one item~~ items of interactive broadcast data that ~~matches each of~~ match the user entered-text ~~strings~~ string, and wherein all of the full text descriptions corresponding to each of the matching interactive broadcast data are simultaneously displayed at the management system.

39. (Cancelled)

40. (New) A method as recited in claim 1, wherein the fixed size of each of the unique binary signatures is 64 bits.

41. (New) A method as recited in claim 1, wherein the fixed size of each of the unique binary signatures is 8 bytes.